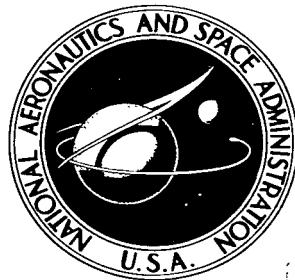


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FINITE GEOMETRY CORRECTIONS TO GAMMA-RAY ANGULAR CORRELATION MEASUREMENTS

by Jag J. Singh and Chris Gross

*Langley Research Center
Langley Station, Hampton, Va.*

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • WASHINGTON, D. C. • JANUARY 1965



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FINITE GEOMETRY CORRECTIONS TO GAMMA-RAY

ANGULAR CORRELATION MEASUREMENTS

By Jag J. Singh¹ and Chris Gross
Langley Research Center

SUMMARY

Large cylindrical sodium iodide crystals are used extensively in gamma-ray angular correlation measurements. The finite angular resolution of these crystals affects the observed distribution of the gamma radiation. Consequently, the measured distribution function has to be corrected for finite geometry effects before the results can be compared with the theory.

The correction factors depend upon the geometry of the counters and the absorption properties of the counter material. For detectors with axial symmetry, the effects of finite solid angle are to reduce the anisotropy without changing the form of the distribution function.

These reduction factors have been calculated for gamma-ray energies ranging from 100 Kev up to 15 Mev. The cylindrical sodium iodide crystals considered include all regular sizes from 1.0 inch by 0.5 inch up to 5.0 inches by 5.0 inches, and the distance between the target and the sodium iodide crystal varies from 5.0 centimeters up to 35 centimeters. The results are tabulated in the form of attenuation factors representing the fractional decreases in the coefficients of the true angular distribution function. When the entire area under the gamma-ray pulse is considered at each angle, these tables are accurate throughout the range of energies of gamma rays considered.

For triple correlation between cascading gamma rays, the reduction factors which must be incorporated in the theoretical function will be given by the products of reduction factors for individual detectors.

INTRODUCTION

Measurements of the angular distribution of the gamma rays resulting from the radiative capture of particles in nuclei provide an important source of information on the nature of nuclear forces. In order to overcome the difficulties associated with the generally low radiative capture cross sections and the complexity of the gamma-ray spectra, use of large sodium iodide crystals is

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often necessary. However, the finite size of the detectors smears the angular distribution functions. Consequently, the measured functions must be corrected for finite geometry before they can be compared with the theory. The purpose of this report is to give tables of the attenuation factors for various detector sizes, different gamma-ray energies, and various distances between the source of radiation and the front face of the crystal. A computer program is available on request for those interested in calculating other correction factors.

SYMBOLS

The notation used in this report is similar to that of reference 4. See appendices for detailed description of various terms.

a_k	coefficient of Legendre polynomial of kth order in angular distribution function
(aboo co)	Clebsch-Gordan coefficient
D_{KM}^N	expansion coefficient in triple correlation function
EI	electric dipole radiation
EII	electric quadrupole radiation
h	distance of source of radiation from front face of crystal; in $h/2\pi$, h is Planck's constant
I	spin of final state in transition, $h/2\pi$ units
J_1	spin of capturing state of compound nucleus, $h/2\pi$ units
J_2	spin of state reached by first gamma ray, $h/2\pi$ units
J_k	correction integral for kth order of Legendre polynomial coefficient; similarly, $J_K(1)$ and $J_M(2)$ indicate absorption integrals for counters 1 and 2, respectively
L_2, L_2'	allowed multipolarities of second gamma ray
L_{12}, L_{12}'	allowed multipolarities of first gamma ray
l_1, l_1'	allowed values of orbital angular momentum of incident particle, $h/2\pi$ units
$P_k(\cos \theta)$	Legendre polynomial of kth order
$P_k^{ m }(\cos \theta)$	associated Legendre polynomial of kth order, $ m \leq k$

r	radius of crystal
S_t	reduced matrix element for transition
S	channel spin, that is, magnitude of vector sum of target spin and incident particle spin, $\hbar/2\pi$ units
tt'	labels for interfering transitions
$w(abcd;ef)$	Racah coefficient
$w(\theta, \phi)$	angular distribution function
x_{KM}^N	angular function in triple correlation expression
$Z(l_j l_j', sk)$ $Z(L_j L_j', Ik)$	associated Racah coefficients
a_{KKM}^N	angular function of kth order. It depends upon K, M, and N. $K, M \leq 2L_{12}, 2L_2$; $N \leq K, M$, whichever is smaller
β', γ, β	angles that γ -rays make with axis of sodium iodide cylinder
$\Delta(abc)$	triangle coefficient
θ	angle between direction of incoming particle and outgoing radiation
π	intrinsic parity of gamma radiation
τ	absorption coefficient of sodium iodide crystal, a function of γ -ray energy
ϕ	azimuth angle

An * indicates complex conjugate of quantity.

MATHEMATICAL PROCEDURE

It is usually convenient to write the angular distribution function of the gamma ray, after the capture of the incident particle, in the form (ref. 1)

$$w(\theta, \phi, \dots) = \sum_{tt'} w_{tt'}(\theta, \phi, \dots) S_t^* S_{t'} \quad (1)$$

where S_t and $S_{t'}$ are the matrix elements which are independent of angles and magnetic quantum numbers and t and t' are labels for interfering radiations. The angular distribution function is given by

$$W_{tt'},(\theta, \phi, \dots) = \sum_k (-1)^{S-I} Z(l_1 J_1 l_1' J_1', sk) Z_l(L J_1 L_1' J_1', lk) P_k(\cos \theta) \quad (2)$$

$$= \sum_k a_k P_k(\cos \theta) \quad (3)$$

where the summation over k is limited by the triangular condition for the coefficients, that is,

$$(|l_1 - l_1'|, |L - L'|, |J - J'|)_{\max} \leq k \leq ((l_1 + l_1'), (L + L'), (J + J'))_{\min}$$

The quantum numbers are summarized in the form of an energy-level diagram in figure 1.

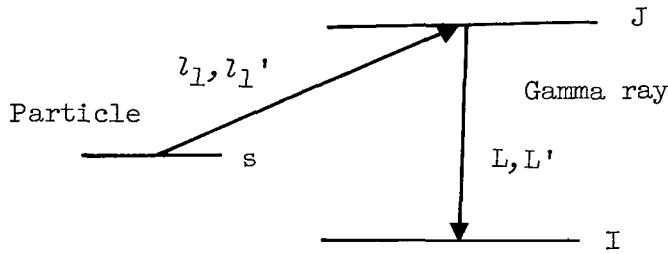


Figure 1.- Quantum numbers in form of an energy-level diagram.

However, the finite size of the detectors is expected to smear the angular distribution functions. Consequently, the measured functions must be corrected for finite geometry before a comparison with the theoretical expressions can be made. Rose (ref. 2) has shown that, in the case of right circular cylindrical detectors with the source at the axis of the cylinder, the form of the correlation function is unchanged and only the coefficients a_k become multiplied by an attenuation factor J_k/J_0 .

$$W_{tt'},(\theta, \phi) = \sum_k a_k J_k P_k(\cos \theta) \quad (4a)$$

$$w_{tt'}(\theta, \phi) = J_0 \left[1 + a_2 \frac{J_2}{J_0} P_2(\cos \theta) + a_4 \frac{J_4}{J_0} P_4(\cos \theta) + \dots \right] \quad (4b)$$

The attenuation factors J_k/J_0 can be easily and accurately calculated for symmetrical geometries. In the event that a gamma-gamma correlation is measured, the correction factors are the products of J_k/J_0 for the two detectors.

In the case of angular distribution functions, the finite geometry correction is usually made by modifying the experimental results. In the case of triple correlations, the theoretical expressions must be corrected for finite geometry. (See ref. 3.) The reasons for this procedure can be seen from the following development:

For an arbitrary choice of the coordinate axis, the correlation is described in terms of spherical polar angles θ, ϕ for each radiation. The correlation function is written (ref. 4) as:

$$w(\theta_1, \phi_1; \theta_2, \phi_2; \theta_{12}, \phi_{12}) = \sum_{tt'} w_{tt'}(\theta_1, \dots) s_t^* s_{t'}$$

If the coordinate is chosen in the direction of the incident beam, the reaction plane may be chosen to contain the second gamma ray. Thus, $\theta_1 = \phi_1 = \phi_2 = 0$. In terms of the remaining angles,

$$w_{tt'}(\theta_{12}, \theta_2, \phi_{12}) = \sum_{KMN} (-1)^{L_2+L_2'} D_{KM}^N(t, t') X_{KM}^N(\theta_{12}, \theta_2, \phi_{12}) \quad (5)$$

where the expansion coefficient D_{KM}^N is a complex function of all the reaction parameters and $X_{KM}^N(\theta_{12}, \theta_2, \phi_{12})$ is given by

$$X_{KM}^N(\theta_{12}, \theta_2, \phi_{12}) = \left[\frac{(2K+1)(K-N)!(2M+1)(M-N)!}{(K+N)!(M+N)!} \right]^{1/2} P_K^N(\cos \theta_{12}) P_M^N(\cos \theta_2) \cos N\phi \quad (6)$$

where $K \geq 2L_{12}$ for even values only, $M \geq 2L_2$ for even values only, and $N \leq K$ or M (whichever is smaller) and is positive integer or zero. The quantum numbers used in equation (5) are summarized in figure 2.

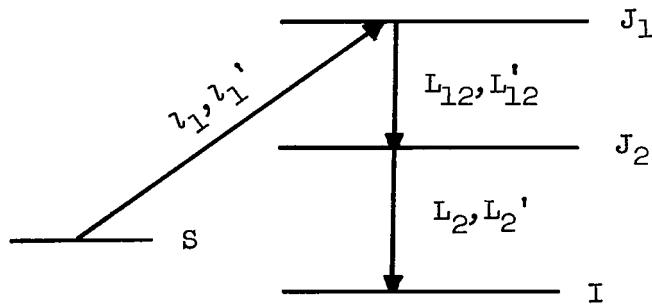


Figure 2.- Quantum numbers used in equation (5).

If the correlation is measured with the counters whose size is not negligible, it takes the following form:

$$W_{tt'}(\theta_{12}, \theta_2, \phi_{12}) = \sum_{KMN} (-1)^{L_2 + L_2'} D_{KM}^N(t t') J_K(1) J_M(2) x_{KM}^N(\theta_{12}, \theta_2, \phi_{12}) \\ \equiv \sum_k A_k P_k(\cos \theta) \quad (7)$$

for a suitable choice of the position of the fixed detector. $J_K(1)$ and $J_M(2)$ are the absorption integrals for the first and the second counters, respectively. These integrals are independent of N and are, of course, energy-dependent. It can be seen from equation (7) that the k th term cannot be corrected for finite geometry effects by multiplying the theoretical expression with $\left(\frac{J_k}{J_0}\right)^2$ for identical detectors.

Rose (ref. 2) has derived an expression for the absorption integrals J_k as a function of the radius of the NaI(Tl) crystal, its length, the distance between its face and the source of gamma radiation and the total absorption coefficient of the gamma radiation in the sodium iodide crystal.

J_k is of the form:

$$J_k = \int_0^\gamma P_k(\cos \beta) \left(1 - e^{-\tau x(\beta)}\right) \sin \beta d\beta \quad (8)$$

when τ is the total absorption coefficient of the gamma ray in NaI(Tl) crystal, $x(\beta)$ is the distance traveled by the gamma ray within the crystal and is given by

$$x(\beta) = \frac{t}{\cos \beta} \quad (\beta < \beta') \quad (8)$$

$$x(\beta) = \frac{r}{\sin \beta} - \frac{h}{\cos \beta} \quad (\beta' < \beta < \gamma) \quad (9)$$

(See fig. 3 for geometrical details.) The absorption integral (eq. (8)) is very sensitive to the values of τ , and the attenuation factor J_k/J_0 varies

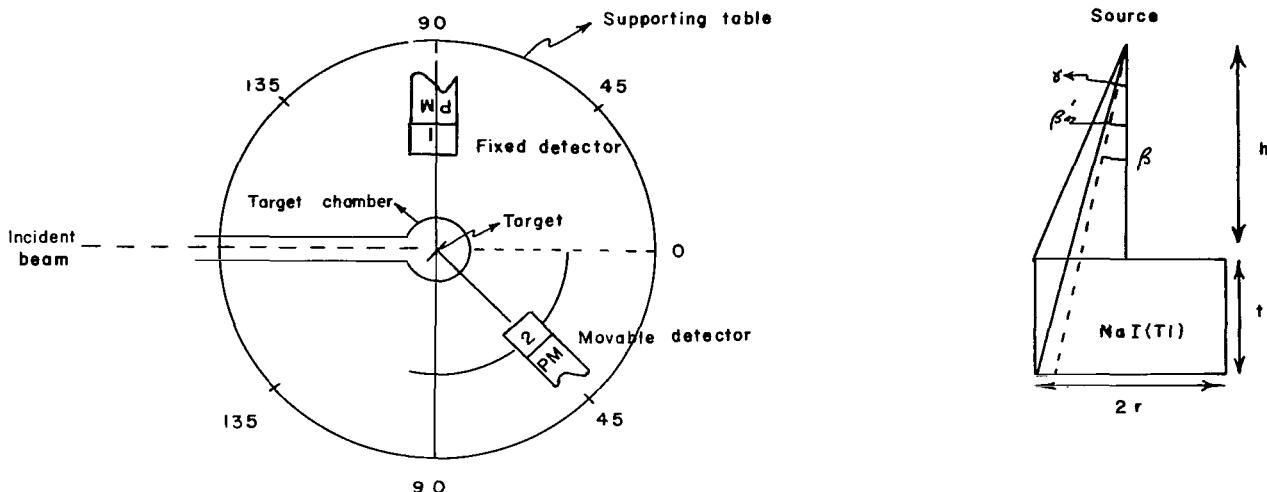


Figure 3-- Typical geometrical arrangement for angular distribution measurement of gamma radiation. Insert shows details of finite detector size effects. PM denotes photomultiplier.

much less with τ . The integral (eq. (8)) has been calculated by using the numerical integration for the following values of different variables:

(1) Gamma-ray energy: It ranges from 100 Kev up to 15 Mev. For ready reference, the corresponding gamma-ray energies for various values of total absorption coefficients (in units of cm^{-1}) in sodium iodide are given in the following table:

Absorption coefficient $\tau, \text{ cm}^{-1}$	Gamma-ray energy, Mev
0.128	4.500 > 6.500
.130	3.700 > 8.000
.137	2.800 > 11.000
.150	2.100 > 16.300
.200	1.110
.300	.560
.500	.335
1.000	.212
2.000	.152
3.000	.129
5.000	.106

Figure 4 shows the graph between total absorption coefficients and the corresponding energies.

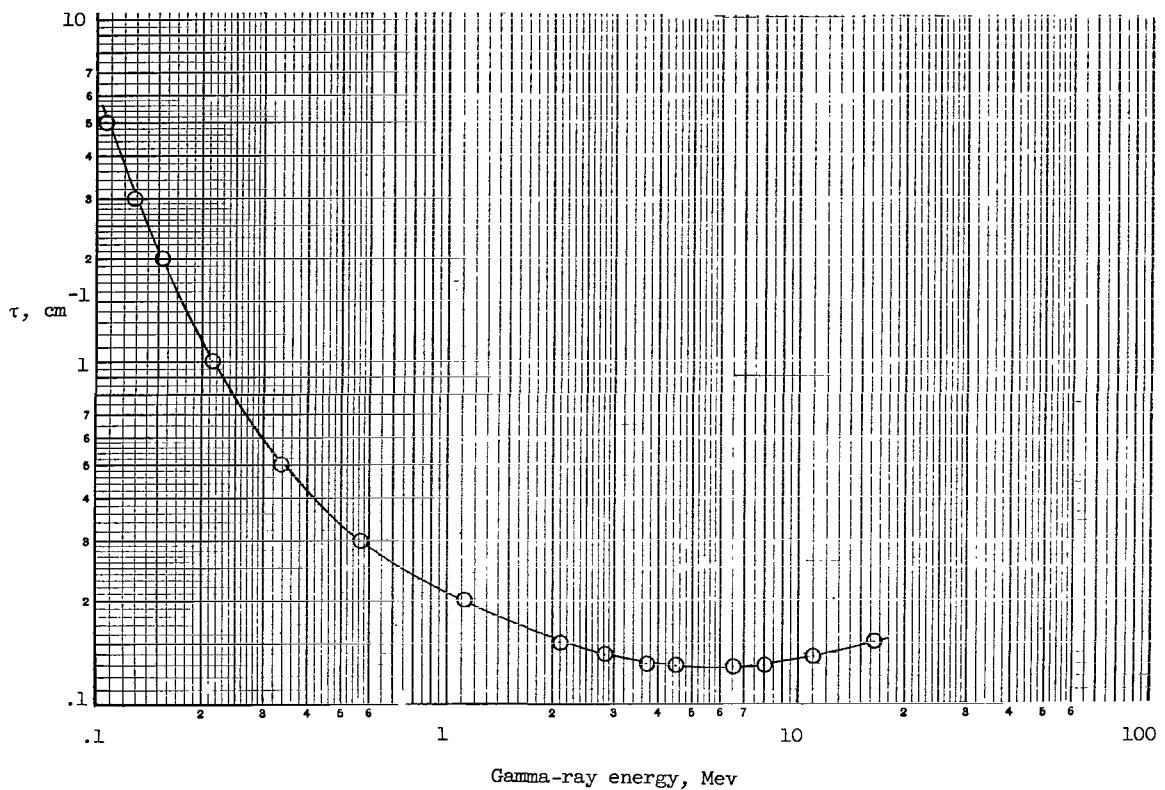


Figure 4.- Absorption coefficients (in units of cm^{-1}) in sodium iodide for gamma rays of various energies.

(2) Sodium iodide crystal size: All regular crystal sizes from 1.0 inch by 0.5 inch up to 5 inches by 5 inches are considered.

(3) Distance between the source and the counter: The distance between the source of the radiation (target) and the front face of the counters varies from 5 centimeters to 35 centimeters, in steps of 5 centimeters.

Since no compilation can hope to cover all geometries and crystal sizes which may occur, interested persons may compute their own correction factors by using the Fortran Computer Program which may be requested from Langley Research Center. It takes less than 5 seconds to compute correction factors for a fixed geometry for all the gamma-ray energies considered in this report.

Since the complexity of the measured distribution or correlation function is seldom in excess of $P_6(\cos \theta)$, attenuation coefficients have been calculated up to (J_6/J_0) only. The results are given in table I. The correction factors $J_K(1)$ and $J_M(2)$ for triple corrections will have to be calculated

for various assumed spin sequences and multipolarities. Since these factors are energy sensitive, care must be exercised in comparing the experiment with the theory. The correction factors given here are exact if the entire area under the gamma pulse profile is considered; they are only approximate if the area below the double escape peak is ignored.

USE OF TABLES

Illustrative examples to indicate use of the tables are now considered:

(a) Suppose the measured angular distribution of a 5.00-Mev γ -ray with a 4-inch by 4-inch NaI(Tl) crystal placed 15.0 centimeters from the target is of the form:

$$W(\theta) = 1 + (0.32 \pm 0.03)P_2(\cos \theta) + (0.09 \pm 0.03)P_4(\cos \theta)$$

To find the true angular distribution, proceed as follows.

In the appropriate table and for the 5.00-Mev γ -ray, note that $J_2/J_0 = 0.943$ and $J_4/J_0 = 0.818$. Hence, by substitution of these values into the expression for $W(\theta)$, the true angular distribution is found to be

$$\begin{aligned} W(\theta) &= 1 + \frac{(0.32 \pm 0.03)}{J_2/J_0} P_2(\cos \theta) + \frac{(0.09 \pm 0.03)}{J_4/J_0} P_4(\cos \theta) \\ &= 1 + (0.34 \pm 0.03)P_2(\cos \theta) + (0.11 \pm 0.03)P_4(\cos \theta) \end{aligned}$$

(b) Suppose the measured triple correlation function is of the form:

$$W(\theta) = 1 + (0.30 \pm 0.02)P_2(\cos \theta)$$

As indicated in the mathematical outline of the theory, the theoretical expression is corrected for various assumed spin sequences and then compared with the experimental result. Assume the target nucleus spin is $\frac{3}{2}^+$ and the p-wave protons form a compound state 3^- . Suppose this level decays to the ground state 2^+ through an intermediate state of spin 3^+ . If it is assumed that measurements were made in geometry I (ref. 4), the expression

$$W(\theta) = \sum_{KMN} \left(\alpha_{KKM}^N \right) \left(D_{KM}^N \right) (-1)^{L_2+L_2'} J_K(1) J_M(2) P_k(\cos \theta)$$

leads to the result

$$W(\theta) = 1 + 0.30P_2(\cos \theta)$$

The agreement between the experimental results and the expected results for
 $\beta^- \xrightarrow{EI} \beta^+ \xrightarrow{EII} 2^+$ triple correlation indicates a correct choice of spin sequence.

CONCLUDING REMARKS

Reduction factors have been calculated for gamma-ray energies ranging from 100 Kev up to 15 Mev. The cylindrical sodium iodide crystals considered include all regular sizes from 1.0 inch by 0.5 inch up to 5.0 inches by 5.0 inches, and the distance between the target and the sodium iodide crystal varies from 5.0 centimeters up to 35 centimeters. The results are tabulated in the form of attenuation factors representing the fractional decreases in the coefficients of the true angular distribution function. When the entire area under the gamma-ray pulse profile is considered at each angle, these tables are accurate throughout the range of energies of gamma rays considered. The attenuation factors have been calculated for all geometrical conditions likely to be met in nuclear investigations. The energies considered also cover the entire range of interest for quantitative measurements.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Station, Hampton, Va., May 8, 1964.

APPENDIX A

REDUCED MATRIX ELEMENTS

In Lloyd's formalism (ref. 1), the reduced matrix elements are described in the form $(I_f \parallel L \parallel I_{in})$, where

I_f final state in transition

I_{in} initial state in transition

Thus, in the case of particle capture radiations,

$$\left. \begin{aligned} S_t &= \langle s \parallel l_1 \parallel J \rangle \langle I \parallel L \parallel J \rangle \\ S_t' &= \langle s \parallel l_1' \parallel J \rangle \langle I \parallel L' \parallel J \rangle \end{aligned} \right\} \quad (9)$$

In the case of triple correlations,

$$\left. \begin{aligned} S_t &= \langle s \parallel l_1 \parallel J_1 \rangle \langle J_2 \parallel L_{12} \parallel J_1 \rangle \langle I \parallel L_2 \parallel J_2 \rangle \\ S_t' &= \langle s \parallel l_1' \parallel J_1 \rangle \langle J_2 \parallel L'_{12} \parallel J_1 \rangle \langle I \parallel L'_2 \parallel J_2 \rangle \end{aligned} \right\} \quad (10)$$

In general, every quantity that is invariant under rotations in three dimensions can be expressed in terms of the reduced matrix elements and the coefficients (Racah coefficients).

APPENDIX B

RACAH COEFFICIENTS

In multiple correlation calculations, one of the tasks is the performance of various sums over magnetic quantum numbers. This is very conveniently done by the use of Racah functions (ref. 2) which are defined as follows:

$$W(abcd;ef) = \Delta(abe) \Delta(cde) \Delta(acf) \Delta(bdf) w(abcd;ef) \quad (11)$$

when

$$\begin{aligned} w(abcd;ef) &= \sum_z \frac{(-1)^{a+b+c+d+z}(z+1)!}{(z-a-b-e)!(z-c-d-e)!(z-a-c-f)!(z-b-d-f)!} \\ &\times \frac{1}{(a+b+c+d-z)!(a+d+e+f-z)!(b+c+e+f-z)!} \end{aligned}$$

The summation is for all values of z that do not make the argument of the factorials negative. The Racah coefficient is defined only if each of the triads form the sides of a triangle and have an integral sum. From the symmetry properties of the Racah coefficients, the different variables can be ordered in any desired manner.

The coefficients which are more appropriate for angular distribution problems are the associated Z and Z_1 coefficients (ref. 3), defined as

$$Z(abcd;ef) = i^{f-a+c} [(2a+1)(2b+1)(2c+1)(2d+1)]^{1/2} W(abcd;ef) (acoo|fo) \quad (12)$$

where $W(abcd;ef)$ is the Racah coefficient and $(acoo|fo)$ is the Clebsch-Gordan coefficient

$$\begin{aligned} Z_1(abcd;ef) &= \text{Real part of } \left\{ i^{e-\pi_c - a + \pi_a + f + 2} [(2a+1)(2b+1)(2c+1)(2d+1)]^{1/2} \right\} \\ &\times W(abcd;ef) (ac - ll | fo) \quad (13) \end{aligned}$$

where

π_c intrinsic parity of c-radiation

π_a intrinsic parity of a-radiation

and π is zero for electric radiation and unity for magnetic radiation.

APPENDIX C

X-COEFFICIENTS (9-j SYMBOLS)

The 9-j symbol is an important concept in the theory of complex spectra and angular distributions of nuclear reactions. It is defined as a function of nine variables for all $\begin{pmatrix} a & b & c \\ d & e & f \\ g & h & k \end{pmatrix}$ positive integral and half integral values of its arguments subject to the limitation that all the triads (abc), (def), (ghk), (adg), (beh), and (cfk) have an integral sum and satisfy the triangular inequality. In terms of the Racah coefficients, the 9-j coefficient is expressed as:

$$x\begin{pmatrix} a & b & c \\ d & e & f \\ g & h & k \end{pmatrix} = \sum_x (2x + 1) W(abkf; cx) W(dfhb; ex) W(adkh; gx) \quad (14)$$

From the triangular conditions imposed on the nine parameters, it is possible to select a lower and an upper limit for x in the summation and to sum between these limits.

APPENDIX D

$$D\text{-COEFFICIENTS } D_{KM}^N(t t')$$

The triple correlation function is expressed as a series of Legendre polynomials. The coefficients of these polynomials are best described in terms of D_{KM}^N functions which are given by:

$$D_{KM}^N(s I J_1 J_2 l_1 l_1' L_{12} L_{12}' L_2 L_2') = \frac{2^n}{(2K+1)^{1/2} (2M+1)^{1/2}} \sum_x i^\psi z(l_1 J_1 l_1' J_1', s x) (x M O N | K N) \\ \times z_l(L_2 J_2 L_2' J_2', I M) G_l \begin{pmatrix} J_1 & L_{12} & J_2 \\ x & K & M \\ J_1 & L_{12}' & J_2 \end{pmatrix} \quad (15)$$

when

$$\psi = 2(s + I + J_1 + J_2 + M) + l_1 - l_1' - L_{12} + L_{12}' - L_2 + L_2' - \pi_{12} + \pi_{12}' - \pi_2 + \pi_2'$$

and n is the number of interference terms. If $N = 0$, this relation is simply equal to the number of pairs $(l l')$, $(L_{12} L_{12}')$, and $(L_2 L_2')$ when two quantum numbers are unequal. If $N \neq 0$, n equals the number of pairs with unequal quantum numbers plus one.

$(x M O N | K N)$ is the Clebsch-Gordan coefficient

$$G_l \begin{pmatrix} J_1 & L_{12} & J_2 \\ x & K & M \\ J_1 & L_{12}' & J_2 \end{pmatrix} = \text{Real part of } i^{-L_{12} + \pi_{12} - L_{12}' - \pi_{12}' - x - M + 2} \\ \times (2L_{12} + 1)^{1/2} (2L_{12}' + 1)^{1/2} (2x + 1)^{1/2} (2M + 1)^{1/2} (L_{12} L_{12}' - 11 | K O) x \begin{pmatrix} J_1 & L_{12} & J_2 \\ x & K & M \\ J_1 & L_{12}' & J_2 \end{pmatrix} \quad (16)$$

where π is the intrinsic parity of a gamma ray and is 1 for magnetic radiation, and is 0 for electric radiation.

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TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS
USING CYLINDRICAL SODIUM IODIDE CRYSTALS

Diameter, 1.00 in.; thickness, 0.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9622	0.8778	0.7553	0.9893	0.9646	0.9267	0.9950	0.9836	0.9657
0.130	0.9622	0.8778	0.7553	0.9893	0.9646	0.9267	0.9950	0.9836	0.9657
0.137	0.9622	0.8778	0.7552	0.9893	0.9646	0.9267	0.9950	0.9836	0.9657
0.150	0.9622	0.8777	0.7551	0.9893	0.9646	0.9267	0.9950	0.9836	0.9657
0.200	0.9621	0.8775	0.7546	0.9893	0.9646	0.9266	0.9950	0.9835	0.9656
0.300	0.9619	0.8770	0.7536	0.9893	0.9645	0.9264	0.9950	0.9835	0.9656
0.500	0.9616	0.8759	0.7517	0.9892	0.9643	0.9261	0.9950	0.9835	0.9655
1.000	0.9608	0.8735	0.7471	0.9891	0.9639	0.9253	0.9950	0.9833	0.9652
2.000	0.9595	0.8693	0.7390	0.9889	0.9632	0.9238	0.9949	0.9831	0.9647
3.000	0.9585	0.8660	0.7329	0.9887	0.9627	0.9227	0.9949	0.9829	0.9644
5.000	0.9571	0.8619	0.7251	0.9885	0.9620	0.9214	0.9948	0.9827	0.9639

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9972	0.9906	0.9802	0.9982	0.9939	0.9872	0.9987	0.9957	0.9910
0.130	0.9972	0.9906	0.9802	0.9982	0.9939	0.9872	0.9987	0.9957	0.9910
0.137	0.9972	0.9906	0.9802	0.9982	0.9939	0.9872	0.9987	0.9957	0.9910
0.150	0.9972	0.9905	0.9802	0.9982	0.9939	0.9872	0.9987	0.9957	0.9910
0.200	0.9972	0.9905	0.9802	0.9982	0.9939	0.9872	0.9987	0.9957	0.9910
0.300	0.9972	0.9905	0.9802	0.9982	0.9939	0.9871	0.9987	0.9957	0.9910
0.500	0.9971	0.9905	0.9801	0.9982	0.9938	0.9871	0.9987	0.9957	0.9909
1.000	0.9971	0.9904	0.9800	0.9981	0.9938	0.9870	0.9987	0.9957	0.9909
2.000	0.9971	0.9903	0.9798	0.9981	0.9938	0.9869	0.9987	0.9956	0.9909
3.000	0.9971	0.9903	0.9796	0.9981	0.9937	0.9868	0.9987	0.9956	0.9908
5.000	0.9970	0.9902	0.9794	0.9981	0.9937	0.9867	0.9987	0.9956	0.9908

TABLE I.-- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 1.00 in.; thickness, 1.00 in.

τ	$h = 5.0 \text{ cm}$				$h = 10.0 \text{ cm}$				$h = 15.0 \text{ cm}$	
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	
0.128	0.9668	0.8922	0.7831	0.9902	0.9675	0.9326	0.9953	0.9845	0.9677	
0.130	0.9667	0.8921	0.7830	0.9902	0.9675	0.9326	0.9953	0.9845	0.9677	
0.137	0.9667	0.8920	0.7828	0.9902	0.9675	0.9326	0.9953	0.9845	0.9677	
0.150	0.9666	0.8918	0.7824	0.9902	0.9675	0.9325	0.9953	0.9845	0.9677	
0.200	0.9664	0.8910	0.7809	0.9901	0.9673	0.9322	0.9953	0.9845	0.9676	
0.300	0.9659	0.8895	0.7778	0.9900	0.9670	0.9316	0.9953	0.9844	0.9674	
0.500	0.9650	0.8865	0.7721	0.9899	0.9665	0.9305	0.9952	0.9842	0.9670	
1.000	0.9629	0.8800	0.7596	0.9895	0.9653	0.9280	0.9951	0.9838	0.9662	
2.000	0.9602	0.8714	0.7431	0.9890	0.9637	0.9248	0.9950	0.9833	0.9651	
3.000	0.9587	0.8667	0.7341	0.9888	0.9628	0.9230	0.9949	0.9830	0.9645	
5.000	0.9572	0.8620	0.7252	0.9885	0.9620	0.9214	0.9948	0.9827	0.9639	

τ	$h = 20.0 \text{ cm}$				$h = 25.0 \text{ cm}$				$h = 30.0 \text{ cm}$	
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	
0.128	0.9973	0.9910	0.9812	0.9982	0.9941	0.9877	0.9988	0.9959	0.9913	
0.130	0.9973	0.9910	0.9812	0.9982	0.9941	0.9877	0.9988	0.9959	0.9913	
0.137	0.9973	0.9910	0.9812	0.9982	0.9941	0.9877	0.9988	0.9959	0.9913	
0.150	0.9973	0.9910	0.9811	0.9982	0.9941	0.9877	0.9988	0.9958	0.9913	
0.200	0.9973	0.9910	0.9811	0.9982	0.9941	0.9876	0.9988	0.9958	0.9913	
0.300	0.9973	0.9909	0.9810	0.9982	0.9941	0.9876	0.9987	0.9958	0.9913	
0.500	0.9972	0.9908	0.9808	0.9982	0.9940	0.9875	0.9987	0.9958	0.9912	
1.000	0.9972	0.9907	0.9804	0.9982	0.9939	0.9873	0.9987	0.9957	0.9911	
2.000	0.9971	0.9904	0.9799	0.9981	0.9938	0.9870	0.9987	0.9957	0.9909	
3.000	0.9971	0.9903	0.9797	0.9981	0.9937	0.9869	0.9987	0.9956	0.9908	
5.000	0.9970	0.9902	0.9794	0.9981	0.9937	0.9867	0.9987	0.9956	0.9908	

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 1.50 in.; thickness, 1.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9287	0.7760	0.5711	0.9782	0.9286	0.8542	0.9896	0.9656	0.9287
0.130	0.9287	0.7759	0.5710	0.9782	0.9286	0.8542	0.9896	0.9656	0.9287
0.137	0.9286	0.7757	0.5707	0.9782	0.9286	0.8541	0.9896	0.9656	0.9286
0.150	0.9285	0.7753	0.5700	0.9782	0.9285	0.8539	0.9896	0.9656	0.9286
0.200	0.9280	0.7738	0.5674	0.9781	0.9282	0.8533	0.9896	0.9655	0.9284
0.300	0.9270	0.7708	0.5622	0.9779	0.9276	0.8521	0.9895	0.9652	0.9280
0.500	0.9251	0.7652	0.5524	0.9775	0.9264	0.8498	0.9894	0.9648	0.9271
1.000	0.9209	0.7529	0.5311	0.9767	0.9239	0.8447	0.9891	0.9640	0.9253
2.000	0.9154	0.7366	0.5033	0.9757	0.9204	0.8379	0.9887	0.9628	0.9229
3.000	0.9123	0.7278	0.4884	0.9751	0.9186	0.8343	0.9885	0.9622	0.9217
5.000	0.9094	0.7192	0.4740	0.9746	0.9169	0.8309	0.9884	0.9616	0.9205

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9939	0.9799	0.9581	0.9960	0.9868	0.9725	0.9972	0.9907	0.9805
0.130	0.9939	0.9799	0.9581	0.9960	0.9868	0.9725	0.9972	0.9907	0.9805
0.137	0.9939	0.9799	0.9580	0.9960	0.9868	0.9725	0.9972	0.9907	0.9805
0.150	0.9939	0.9799	0.9580	0.9960	0.9868	0.9724	0.9972	0.9907	0.9805
0.200	0.9939	0.9798	0.9579	0.9960	0.9868	0.9724	0.9972	0.9907	0.9805
0.300	0.9939	0.9797	0.9577	0.9960	0.9867	0.9723	0.9972	0.9906	0.9804
0.500	0.9938	0.9795	0.9573	0.9960	0.9866	0.9721	0.9972	0.9906	0.9803
1.000	0.9937	0.9791	0.9565	0.9959	0.9864	0.9716	0.9971	0.9905	0.9800
2.000	0.9935	0.9786	0.9554	0.9958	0.9861	0.9710	0.9971	0.9903	0.9797
3.000	0.9935	0.9783	0.9548	0.9958	0.9860	0.9707	0.9970	0.9902	0.9795
5.000	0.9934	0.9780	0.9543	0.9957	0.9858	0.9704	0.9970	0.9901	0.9793

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 1.50 in.; thickness, 1.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9345	0.7935	0.6027	0.9796	0.9331	0.8630	0.9901	0.9673	0.9323
0.130	0.9344	0.7934	0.6025	0.9796	0.9331	0.8630	0.9901	0.9673	0.9322
0.137	0.9343	0.7930	0.6018	0.9796	0.9330	0.8628	0.9901	0.9673	0.9322
0.150	0.9341	0.7923	0.6006	0.9795	0.9328	0.8625	0.9901	0.9673	0.9321
0.200	0.9332	0.7896	0.5957	0.9793	0.9322	0.8613	0.9900	0.9670	0.9316
0.300	0.9314	0.7843	0.5865	0.9790	0.9311	0.8590	0.9899	0.9666	0.9308
0.500	0.9282	0.7747	0.5696	0.9783	0.9289	0.8548	0.9897	0.9659	0.9292
1.000	0.9221	0.7564	0.5375	0.9770	0.9248	0.8466	0.9892	0.9644	0.9261
2.000	0.9155	0.7369	0.5039	0.9757	0.9205	0.8381	0.9888	0.9628	0.9230
3.000	0.9123	0.7278	0.4884	0.9751	0.9186	0.8343	0.9885	0.9622	0.9217
5.000	0.9094	0.7192	0.4740	0.9746	0.9169	0.8309	0.9884	0.9616	0.9205

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9942	0.9807	0.9598	0.9962	0.9873	0.9734	0.9973	0.9910	0.9811
0.130	0.9942	0.9807	0.9598	0.9962	0.9873	0.9734	0.9973	0.9910	0.9811
0.137	0.9942	0.9807	0.9597	0.9962	0.9873	0.9734	0.9973	0.9910	0.9811
0.150	0.9942	0.9807	0.9597	0.9962	0.9872	0.9734	0.9973	0.9910	0.9811
0.200	0.9941	0.9806	0.9595	0.9961	0.9872	0.9732	0.9973	0.9909	0.9810
0.300	0.9941	0.9804	0.9591	0.9961	0.9871	0.9730	0.9973	0.9909	0.9809
0.500	0.9940	0.9800	0.9583	0.9961	0.9869	0.9726	0.9972	0.9907	0.9806
1.000	0.9938	0.9793	0.9569	0.9959	0.9865	0.9718	0.9971	0.9905	0.9802
2.000	0.9935	0.9786	0.9554	0.9958	0.9861	0.9710	0.9971	0.9903	0.9797
3.000	0.9935	0.9783	0.9548	0.9958	0.9860	0.9707	0.9971	0.9902	0.9795
5.000	0.9934	0.9780	0.9543	0.9957	0.9858	0.9704	0.9970	0.9901	0.9793

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 2.00 in.; thickness, 1.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8810	0.6410	0.3547	0.9620	0.8772	0.7541	0.9817	0.9398	0.8764
0.130	0.8810	0.6409	0.3546	0.9620	0.8772	0.7540	0.9817	0.9398	0.8764
0.137	0.8809	0.6406	0.3541	0.9620	0.8771	0.7539	0.9817	0.9398	0.8763
0.150	0.8807	0.6401	0.3533	0.9619	0.8770	0.7536	0.9817	0.9397	0.8762
0.200	0.8799	0.6379	0.3501	0.9618	0.8764	0.7527	0.9816	0.9395	0.8759
0.300	0.8783	0.6337	0.3438	0.9615	0.8754	0.7508	0.9815	0.9392	0.8752
0.500	0.8753	0.6256	0.3318	0.9608	0.8735	0.7471	0.9813	0.9385	0.8738
1.000	0.8689	0.6081	0.3059	0.9595	0.8693	0.7390	0.9808	0.9370	0.8708
2.000	0.8603	0.5851	0.2726	0.9577	0.8637	0.7284	0.9802	0.9350	0.8667
3.000	0.8557	0.5729	0.2551	0.9567	0.8607	0.7227	0.9799	0.9339	0.8646
5.000	0.8513	0.5612	0.2389	0.9558	0.8579	0.7175	0.9796	0.9329	0.8626

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9893	0.9645	0.9265	0.9930	0.9767	0.9515	0.9950	0.9835	0.9656
0.130	0.9893	0.9645	0.9265	0.9930	0.9767	0.9515	0.9950	0.9835	0.9656
0.137	0.9893	0.9645	0.9265	0.9930	0.9767	0.9515	0.9950	0.9835	0.9656
0.150	0.9893	0.9645	0.9264	0.9930	0.9767	0.9515	0.9950	0.9835	0.9656
0.200	0.9892	0.9644	0.9263	0.9930	0.9766	0.9514	0.9950	0.9835	0.9655
0.300	0.9892	0.9643	0.9259	0.9929	0.9766	0.9512	0.9950	0.9834	0.9654
0.500	0.9891	0.9639	0.9253	0.9929	0.9764	0.9508	0.9950	0.9833	0.9652
1.000	0.9889	0.9632	0.9238	0.9928	0.9760	0.9500	0.9949	0.9831	0.9647
2.000	0.9886	0.9623	0.9219	0.9926	0.9755	0.9490	0.9948	0.9828	0.9641
3.000	0.9884	0.9618	0.9209	0.9925	0.9752	0.9484	0.9948	0.9826	0.9638
5.000	0.9883	0.9614	0.9200	0.9924	0.9750	0.9479	0.9947	0.9825	0.9635

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 2.00 in.; thickness, 1.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8904	0.6676	0.3973	0.9644	0.8846	0.7684	0.9826	0.9428	0.8825
0.130	0.8903	0.6674	0.3970	0.9644	0.8846	0.7684	0.9826	0.9428	0.8824
0.137	0.8901	0.6668	0.3961	0.9643	0.8844	0.7681	0.9826	0.9427	0.8823
0.150	0.8897	0.6658	0.3945	0.9642	0.8842	0.7676	0.9826	0.9426	0.8821
0.200	0.8883	0.6618	0.3883	0.9639	0.8832	0.7657	0.9824	0.9423	0.8814
0.300	0.8855	0.6541	0.3764	0.9633	0.8813	0.7620	0.9822	0.9416	0.8800
0.500	0.8805	0.6400	0.3548	0.9622	0.8777	0.7552	0.9818	0.9402	0.8773
1.000	0.8708	0.6134	0.3143	0.9600	0.8709	0.7422	0.9810	0.9377	0.8721
2.000	0.8605	0.5856	0.2734	0.9578	0.8638	0.7287	0.9802	0.9350	0.8669
3.000	0.8557	0.5729	0.2552	0.9567	0.8607	0.7227	0.9799	0.9339	0.8646
5.000	0.8513	0.5612	0.2389	0.9558	0.8579	0.7175	0.9796	0.9329	0.8626

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9897	0.9660	0.9295	0.9932	0.9775	0.9532	0.9952	0.9840	0.9666
0.130	0.9897	0.9660	0.9295	0.9932	0.9775	0.9531	0.9952	0.9840	0.9666
0.137	0.9897	0.9660	0.9294	0.9932	0.9775	0.9531	0.9952	0.9840	0.9666
0.150	0.9897	0.9659	0.9294	0.9932	0.9775	0.9531	0.9952	0.9840	0.9666
0.200	0.9896	0.9658	0.9290	0.9932	0.9774	0.9529	0.9952	0.9839	0.9665
0.300	0.9895	0.9654	0.9283	0.9931	0.9772	0.9525	0.9951	0.9838	0.9662
0.500	0.9893	0.9648	0.9270	0.9930	0.9768	0.9518	0.9951	0.9836	0.9658
1.000	0.9890	0.9636	0.9245	0.9928	0.9762	0.9504	0.9949	0.9832	0.9650
2.000	0.9886	0.9623	0.9220	0.9926	0.9755	0.9490	0.9948	0.9828	0.9641
3.000	0.9884	0.9618	0.9209	0.9925	0.9752	0.9484	0.9948	0.9826	0.9638
5.000	0.9883	0.9614	0.9200	0.9924	0.9750	0.9479	0.9947	0.9825	0.9635

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 2.00 in.; thickness, 2.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8965	0.6852	0.4266	0.9661	0.8901	0.7792	0.9833	0.9451	0.8871
0.130	0.8964	0.6850	0.4262	0.9661	0.8901	0.7790	0.9833	0.9451	0.8871
0.137	0.8961	0.6841	0.4248	0.9660	0.8899	0.7786	0.9833	0.9450	0.8869
0.150	0.8956	0.6826	0.4224	0.9659	0.8895	0.7778	0.9832	0.9448	0.8866
0.200	0.8935	0.6768	0.4131	0.9654	0.8879	0.7749	0.9830	0.9443	0.8854
0.300	0.8896	0.6658	0.3957	0.9645	0.8851	0.7694	0.9827	0.9432	0.8832
0.500	0.8828	0.6468	0.3660	0.9629	0.8800	0.7596	0.9821	0.9412	0.8793
1.000	0.8712	0.6148	0.3166	0.9602	0.8714	0.7431	0.9811	0.9379	0.8726
2.000	0.8605	0.5857	0.2734	0.9578	0.8638	0.7287	0.9802	0.9350	0.8669
3.000	0.8557	0.5729	0.2552	0.9567	0.8607	0.7227	0.9799	0.9339	0.8646
5.000	0.8513	0.5612	0.2389	0.9558	0.8579	0.7175	0.9796	0.9329	0.8626

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9901	0.9672	0.9319	0.9934	0.9782	0.9545	0.9953	0.9844	0.9675
0.130	0.9901	0.9672	0.9319	0.9934	0.9782	0.9545	0.9953	0.9844	0.9675
0.137	0.9901	0.9671	0.9318	0.9934	0.9781	0.9545	0.9953	0.9844	0.9674
0.150	0.9900	0.9670	0.9316	0.9934	0.9781	0.9544	0.9953	0.9844	0.9674
0.200	0.9899	0.9668	0.9311	0.9933	0.9779	0.9541	0.9953	0.9843	0.9672
0.300	0.9898	0.9662	0.9300	0.9933	0.9776	0.9534	0.9952	0.9841	0.9668
0.500	0.9895	0.9653	0.9280	0.9931	0.9771	0.9524	0.9951	0.9838	0.9662
1.000	0.9890	0.9637	0.9248	0.9928	0.9762	0.9505	0.9950	0.9833	0.9651
2.000	0.9886	0.9623	0.9220	0.9926	0.9755	0.9490	0.9948	0.9828	0.9641
3.000	0.9884	0.9618	0.9209	0.9925	0.9752	0.9484	0.9948	0.9826	0.9638
5.000	0.9883	0.9614	0.9200	0.9924	0.9750	0.9479	0.9947	0.9825	0.9635

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 2.50 in.; thickness, 2.00 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9482	0.8346	0.6752	0.9742	0.9158	0.8288	0.9846	0.9492	0.8954
0.130	0.9482	0.8345	0.6750	0.9742	0.9157	0.8287	0.9846	0.9492	0.8954
0.137	0.9481	0.8342	0.6745	0.9742	0.9156	0.8285	0.9846	0.9492	0.8953
0.150	0.9479	0.8337	0.6734	0.9741	0.9154	0.8280	0.9845	0.9491	0.8951
0.200	0.9472	0.8315	0.6694	0.9738	0.9145	0.8263	0.9844	0.9486	0.8942
0.300	0.9458	0.8273	0.6617	0.9733	0.9128	0.8230	0.9841	0.9478	0.8925
0.500	0.9434	0.8200	0.6483	0.9724	0.9099	0.8173	0.9837	0.9464	0.8896
1.000	0.9394	0.8075	0.6256	0.9708	0.9049	0.8075	0.9830	0.9439	0.8847
2.000	0.9358	0.7967	0.6061	0.9695	0.9007	0.7992	0.9823	0.9419	0.8806
3.000	0.9343	0.7922	0.5981	0.9689	0.8990	0.7959	0.9821	0.9411	0.8790
5.000	0.9330	0.7883	0.5911	0.9685	0.8975	0.7930	0.9819	0.9404	0.8776

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9898	0.9661	0.9298	0.9927	0.9758	0.9496	0.9945	0.9819	0.9622
0.130	0.9898	0.9661	0.9298	0.9927	0.9758	0.9496	0.9945	0.9819	0.9622
0.137	0.9897	0.9661	0.9297	0.9927	0.9758	0.9495	0.9945	0.9818	0.9621
0.150	0.9897	0.9660	0.9296	0.9927	0.9757	0.9495	0.9945	0.9818	0.9621
0.200	0.9897	0.9658	0.9291	0.9926	0.9756	0.9492	0.9945	0.9817	0.9619
0.300	0.9895	0.9653	0.9281	0.9925	0.9753	0.9486	0.9944	0.9815	0.9615
0.500	0.9893	0.9645	0.9265	0.9924	0.9748	0.9476	0.9943	0.9812	0.9608
1.000	0.9889	0.9632	0.9237	0.9921	0.9740	0.9459	0.9942	0.9807	0.9597
2.000	0.9885	0.9620	0.9214	0.9919	0.9733	0.9445	0.9940	0.9802	0.9587
3.000	0.9884	0.9616	0.9205	0.9919	0.9730	0.9439	0.9940	0.9800	0.9584
5.000	0.9883	0.9612	0.9197	0.9918	0.9728	0.9435	0.9939	0.9799	0.9581

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 2.50 in.; thickness, 2.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9502	0.8407	0.6867	0.9751	0.9185	0.8342	0.9850	0.9507	0.8984
0.130	0.9501	0.8406	0.6864	0.9750	0.9185	0.8341	0.9850	0.9507	0.8983
0.137	0.9500	0.8402	0.6856	0.9750	0.9183	0.8338	0.9850	0.9506	0.8981
0.150	0.9497	0.8394	0.6842	0.9749	0.9180	0.8331	0.9849	0.9504	0.8978
0.200	0.9488	0.8364	0.6786	0.9745	0.9168	0.8307	0.9848	0.9498	0.8966
0.300	0.9470	0.8309	0.6684	0.9738	0.9145	0.8263	0.9844	0.9487	0.8943
0.500	0.9440	0.8217	0.6515	0.9726	0.9107	0.8189	0.9838	0.9468	0.8905
1.000	0.9394	0.8077	0.6260	0.9708	0.9050	0.8077	0.9830	0.9440	0.8848
2.000	0.9358	0.7967	0.6061	0.9695	0.9007	0.7992	0.9823	0.9419	0.8806
3.000	0.9343	0.7922	0.5981	0.9689	0.8990	0.7959	0.9821	0.9411	0.8790
5.000	0.9330	0.7883	0.5911	0.9685	0.8975	0.7930	0.9819	0.9404	0.8776

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9900	0.9670	0.9315	0.9929	0.9763	0.9508	0.9946	0.9822	0.9629
0.130	0.9900	0.9670	0.9315	0.9929	0.9763	0.9507	0.9946	0.9822	0.9629
0.137	0.9900	0.9669	0.9314	0.9929	0.9763	0.9507	0.9946	0.9822	0.9629
0.150	0.9900	0.9668	0.9312	0.9928	0.9762	0.9506	0.9946	0.9822	0.9628
0.200	0.9899	0.9665	0.9305	0.9928	0.9760	0.9501	0.9946	0.9820	0.9625
0.300	0.9897	0.9659	0.9292	0.9927	0.9756	0.9493	0.9945	0.9818	0.9620
0.500	0.9893	0.9648	0.9270	0.9925	0.9750	0.9480	0.9944	0.9813	0.9611
1.000	0.9889	0.9632	0.9238	0.9922	0.9740	0.9459	0.9942	0.9807	0.9597
2.000	0.9885	0.9620	0.9214	0.9919	0.9733	0.9445	0.9940	0.9802	0.9587
3.000	0.9884	0.9616	0.9205	0.9919	0.9730	0.9439	0.9940	0.9800	0.9584
5.000	0.9883	0.9612	0.9197	0.9918	0.9728	0.9435	0.9939	0.9799	0.9581

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 3.00 in.; thickness, 2.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9274	0.7721	0.5645	0.9633	0.8813	0.7621	0.9780	0.9279	0.8526
0.130	0.9274	0.7720	0.5643	0.9633	0.8813	0.7620	0.9780	0.9278	0.8526
0.137	0.9272	0.7716	0.5635	0.9633	0.8811	0.7617	0.9779	0.9278	0.8524
0.150	0.9270	0.7708	0.5622	0.9632	0.8808	0.7611	0.9779	0.9276	0.8521
0.200	0.9260	0.7680	0.5572	0.9628	0.8796	0.7588	0.9777	0.9270	0.8509
0.300	0.9241	0.7625	0.5477	0.9621	0.8773	0.7544	0.9774	0.9259	0.8486
0.500	0.9209	0.7529	0.5311	0.9608	0.8733	0.7467	0.9767	0.9239	0.8447
1.000	0.9154	0.7366	0.5033	0.9586	0.8665	0.7337	0.9757	0.9204	0.8379
2.000	0.9105	0.7226	0.4797	0.9567	0.8607	0.7227	0.9748	0.9176	0.8322
3.000	0.9086	0.7168	0.4701	0.9560	0.8584	0.7184	0.9744	0.9165	0.8300
5.000	0.9068	0.7118	0.4618	0.9554	0.8564	0.7146	0.9741	0.9155	0.8282

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9853	0.9516	0.9003	0.9895	0.9653	0.9281	0.9922	0.9740	0.9459
0.130	0.9853	0.9516	0.9003	0.9895	0.9653	0.9281	0.9922	0.9740	0.9459
0.137	0.9853	0.9516	0.9002	0.9895	0.9653	0.9281	0.9921	0.9740	0.9459
0.150	0.9853	0.9515	0.9000	0.9895	0.9652	0.9280	0.9921	0.9739	0.9458
0.200	0.9852	0.9512	0.8993	0.9894	0.9650	0.9275	0.9921	0.9738	0.9455
0.300	0.9850	0.9505	0.8980	0.9893	0.9647	0.9268	0.9920	0.9735	0.9450
0.500	0.9846	0.9494	0.8957	0.9891	0.9640	0.9253	0.9919	0.9731	0.9440
1.000	0.9840	0.9475	0.8918	0.9887	0.9628	0.9229	0.9916	0.9723	0.9424
2.000	0.9835	0.9459	0.8886	0.9884	0.9618	0.9209	0.9914	0.9717	0.9411
3.000	0.9834	0.9452	0.8873	0.9883	0.9614	0.9202	0.9914	0.9714	0.9406
5.000	0.9832	0.9447	0.8863	0.9882	0.9611	0.9195	0.9913	0.9712	0.9402

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 3.00 in.; thickness, 2.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9301	0.7804	0.5792	0.9645	0.8851	0.7695	0.9786	0.9299	0.8567
0.130	0.9301	0.7802	0.5789	0.9645	0.8851	0.7693	0.9786	0.9299	0.8566
0.137	0.9299	0.7796	0.5779	0.9644	0.8848	0.7689	0.9786	0.9297	0.8564
0.150	0.9295	0.7786	0.5761	0.9643	0.8844	0.7680	0.9785	0.9295	0.8559
0.200	0.9282	0.7746	0.5692	0.9638	0.8827	0.7648	0.9782	0.9287	0.8542
0.300	0.9257	0.7673	0.5564	0.9628	0.8796	0.7589	0.9777	0.9271	0.8511
0.500	0.9217	0.7552	0.5353	0.9611	0.8744	0.7489	0.9769	0.9245	0.8459
1.000	0.9155	0.7369	0.5038	0.9586	0.8666	0.7340	0.9757	0.9205	0.8381
2.000	0.9105	0.7226	0.4797	0.9567	0.8607	0.7227	0.9748	0.9176	0.8322
3.000	0.9086	0.7168	0.4701	0.9560	0.8584	0.7184	0.9744	0.9165	0.8300
5.000	0.9068	0.7118	0.4618	0.9554	0.8564	0.7146	0.9741	0.9155	0.8282

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9857	0.9529	0.9027	0.9898	0.9661	0.9298	0.9923	0.9745	0.9470
0.130	0.9857	0.9528	0.9027	0.9898	0.9661	0.9298	0.9923	0.9745	0.9470
0.137	0.9857	0.9528	0.9026	0.9897	0.9661	0.9297	0.9923	0.9745	0.9469
0.150	0.9856	0.9526	0.9023	0.9897	0.9660	0.9295	0.9923	0.9744	0.9468
0.200	0.9855	0.9522	0.9013	0.9896	0.9657	0.9289	0.9922	0.9742	0.9464
0.300	0.9852	0.9513	0.8995	0.9895	0.9652	0.9278	0.9921	0.9739	0.9456
0.500	0.9847	0.9498	0.8965	0.9892	0.9642	0.9259	0.9919	0.9732	0.9444
1.000	0.9841	0.9475	0.8919	0.9887	0.9628	0.9230	0.9916	0.9723	0.9425
2.000	0.9835	0.9459	0.8886	0.9884	0.9618	0.9209	0.9914	0.9717	0.9411
3.000	0.9834	0.9452	0.8873	0.9883	0.9614	0.9202	0.9914	0.9714	0.9406
5.000	0.9832	0.9447	0.8863	0.9882	0.9611	0.9195	0.9913	0.9712	0.9402

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 3.00 in.; thickness, 3.00 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9322	0.7866	0.5905	0.9655	0.8882	0.7754	0.9791	0.9316	0.8600
0.130	0.9321	0.7864	0.5901	0.9655	0.8881	0.7752	0.9791	0.9315	0.8599
0.137	0.9319	0.7857	0.5888	0.9654	0.8878	0.7746	0.9791	0.9314	0.8596
0.150	0.9314	0.7843	0.5865	0.9652	0.8872	0.7735	0.9790	0.9311	0.8590
0.200	0.9298	0.7794	0.5777	0.9645	0.8851	0.7694	0.9786	0.9300	0.8568
0.300	0.9268	0.7704	0.5620	0.9633	0.8812	0.7619	0.9780	0.9280	0.8529
0.500	0.9221	0.7564	0.5375	0.9613	0.8751	0.7501	0.9770	0.9248	0.8466
1.000	0.9155	0.7369	0.5039	0.9587	0.8667	0.7341	0.9757	0.9205	0.8381
2.000	0.9105	0.7226	0.4797	0.9567	0.8607	0.7227	0.9748	0.9176	0.8322
3.000	0.9086	0.7168	0.4701	0.9560	0.8584	0.7184	0.9744	0.9165	0.8300
5.000	0.9068	0.7118	0.4618	0.9554	0.8564	0.7146	0.9741	0.9155	0.8282

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9860	0.9539	0.9048	0.9900	0.9668	0.9312	0.9924	0.9750	0.9479
0.130	0.9860	0.9538	0.9047	0.9900	0.9668	0.9311	0.9924	0.9749	0.9479
0.137	0.9860	0.9537	0.9045	0.9899	0.9667	0.9310	0.9924	0.9749	0.9478
0.150	0.9859	0.9536	0.9042	0.9899	0.9666	0.9308	0.9924	0.9748	0.9477
0.200	0.9857	0.9529	0.9029	0.9898	0.9662	0.9300	0.9923	0.9746	0.9471
0.300	0.9854	0.9518	0.9006	0.9896	0.9655	0.9285	0.9922	0.9741	0.9461
0.500	0.9848	0.9500	0.8969	0.9892	0.9644	0.9261	0.9920	0.9733	0.9446
1.000	0.9841	0.9475	0.8919	0.9888	0.9628	0.9230	0.9916	0.9723	0.9425
2.000	0.9835	0.9459	0.8886	0.9884	0.9618	0.9209	0.9914	0.9717	0.9411
3.000	0.9834	0.9452	0.8873	0.9883	0.9614	0.9202	0.9914	0.9714	0.9406
5.000	0.9832	0.9447	0.8863	0.9882	0.9611	0.9195	0.9913	0.9712	0.9402

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 3.50 in.; thickness, 2.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9077	0.7154	0.4707	0.9525	0.8475	0.6987	0.9711	0.9060	0.8096
0.130	0.9076	0.7152	0.4704	0.9524	0.8474	0.6985	0.9711	0.9060	0.8095
0.137	0.9074	0.7145	0.4692	0.9523	0.8471	0.6979	0.9711	0.9058	0.8092
0.150	0.9069	0.7132	0.4671	0.9521	0.8465	0.6969	0.9710	0.9055	0.8087
0.200	0.9052	0.7083	0.4591	0.9514	0.8444	0.6928	0.9706	0.9044	0.8065
0.300	0.9021	0.6993	0.4443	0.9501	0.8404	0.6854	0.9700	0.9023	0.8024
0.500	0.8968	0.6843	0.4201	0.9480	0.8337	0.6730	0.9689	0.8989	0.7957
1.000	0.8889	0.6619	0.3842	0.9447	0.8236	0.6544	0.9673	0.8937	0.7856
2.000	0.8827	0.6446	0.3573	0.9422	0.8160	0.6405	0.9660	0.8898	0.7781
3.000	0.8802	0.6378	0.3469	0.9412	0.8130	0.6352	0.9656	0.8883	0.7753
5.000	0.8780	0.6318	0.3379	0.9404	0.8105	0.6306	0.9652	0.8871	0.7729

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9806	0.9365	0.8698	0.9861	0.9542	0.9056	0.9896	0.9655	0.9285
0.130	0.9806	0.9364	0.8697	0.9861	0.9542	0.9055	0.9896	0.9655	0.9285
0.137	0.9806	0.9364	0.8695	0.9861	0.9542	0.9054	0.9896	0.9655	0.9284
0.150	0.9806	0.9362	0.8692	0.9861	0.9541	0.9052	0.9895	0.9654	0.9282
0.200	0.9804	0.9355	0.8679	0.9859	0.9537	0.9044	0.9894	0.9651	0.9277
0.300	0.9800	0.9343	0.8655	0.9857	0.9529	0.9029	0.9893	0.9646	0.9267
0.500	0.9794	0.9323	0.8615	0.9853	0.9517	0.9003	0.9890	0.9638	0.9250
1.000	0.9784	0.9293	0.8555	0.9848	0.9498	0.8965	0.9887	0.9625	0.9224
2.000	0.9778	0.9272	0.8512	0.9843	0.9484	0.8938	0.9884	0.9617	0.9206
3.000	0.9775	0.9263	0.8496	0.9842	0.9479	0.8928	0.9883	0.9613	0.9199
5.000	0.9773	0.9257	0.8482	0.9841	0.9475	0.8920	0.9882	0.9611	0.9194

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 3.50 in.; thickness, 3.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9104	0.7233	0.4843	0.9537	0.8515	0.7062	0.9718	0.9082	0.8140
0.130	0.9103	0.7230	0.4839	0.9537	0.8514	0.7060	0.9718	0.9082	0.8139
0.137	0.9100	0.7221	0.4824	0.9536	0.8510	0.7052	0.9717	0.9079	0.8135
0.150	0.9094	0.7205	0.4796	0.9533	0.8502	0.7038	0.9716	0.9076	0.8127
0.200	0.9073	0.7143	0.4694	0.9524	0.8474	0.6986	0.9712	0.9061	0.8099
0.300	0.9034	0.7032	0.4511	0.9508	0.8424	0.6892	0.9703	0.9035	0.8047
0.500	0.8974	0.6858	0.4227	0.9482	0.8345	0.6745	0.9690	0.8993	0.7966
1.000	0.8889	0.6620	0.3844	0.9447	0.8237	0.6545	0.9673	0.8937	0.7856
2.000	0.8827	0.6446	0.3573	0.9422	0.8160	0.6405	0.9660	0.8898	0.7781
3.000	0.8802	0.6378	0.3469	0.9412	0.8130	0.6352	0.9656	0.8883	0.7753
5.000	0.8780	0.6318	0.3379	0.9404	0.8105	0.6306	0.9652	0.8871	0.7729

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9811	0.9378	0.8725	0.9864	0.9551	0.9074	0.9897	0.9661	0.9297
0.130	0.9810	0.9378	0.8724	0.9864	0.9551	0.9073	0.9897	0.9661	0.9297
0.137	0.9810	0.9377	0.8722	0.9864	0.9550	0.9072	0.9897	0.9660	0.9296
0.150	0.9809	0.9374	0.8717	0.9863	0.9549	0.9069	0.9897	0.9659	0.9294
0.200	0.9807	0.9366	0.8700	0.9862	0.9544	0.9058	0.9896	0.9656	0.9287
0.300	0.9802	0.9351	0.8669	0.9859	0.9534	0.9038	0.9894	0.9649	0.9273
0.500	0.9795	0.9326	0.8621	0.9854	0.9519	0.9007	0.9891	0.9639	0.9252
1.000	0.9784	0.9294	0.8556	0.9848	0.9498	0.8966	0.9887	0.9626	0.9224
2.000	0.9778	0.9272	0.8512	0.9843	0.9484	0.8938	0.9884	0.9617	0.9206
3.000	0.9775	0.9263	0.8496	0.9842	0.9479	0.8928	0.9883	0.9613	0.9199
5.000	0.9773	0.9257	0.8482	0.9841	0.9475	0.8920	0.9882	0.9611	0.9194

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 3.50 in.; thickness, 3.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9124	0.7294	0.4949	0.9547	0.8547	0.7122	0.9724	0.9100	0.8176
0.130	0.9123	0.7290	0.4943	0.9547	0.8545	0.7119	0.9724	0.9100	0.8174
0.137	0.9119	0.7279	0.4925	0.9545	0.8540	0.7110	0.9723	0.9097	0.8169
0.150	0.9113	0.7259	0.4891	0.9542	0.8531	0.7093	0.9721	0.9092	0.8160
0.200	0.9087	0.7186	0.4769	0.9531	0.8497	0.7030	0.9716	0.9074	0.8125
0.300	0.9043	0.7057	0.4555	0.9512	0.8438	0.6918	0.9706	0.9043	0.8063
0.500	0.8976	0.6866	0.4240	0.9484	0.8349	0.6753	0.9691	0.8996	0.7971
1.000	0.8890	0.6620	0.3844	0.9447	0.8237	0.6545	0.9673	0.8937	0.7857
2.000	0.8827	0.6446	0.3573	0.9422	0.8160	0.6405	0.9660	0.8898	0.7781
3.000	0.8802	0.6378	0.3469	0.9412	0.8130	0.6352	0.9656	0.8883	0.7753
5.000	0.8780	0.6318	0.3379	0.9404	0.8105	0.6306	0.9652	0.8871	0.7729

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9814	0.9389	0.8747	0.9866	0.9559	0.9089	0.9899	0.9666	0.9308
0.130	0.9814	0.9389	0.8747	0.9866	0.9558	0.9088	0.9899	0.9666	0.9308
0.137	0.9813	0.9387	0.8743	0.9866	0.9557	0.9086	0.9899	0.9665	0.9306
0.150	0.9813	0.9385	0.8738	0.9865	0.9556	0.9082	0.9898	0.9664	0.9304
0.200	0.9809	0.9374	0.8717	0.9863	0.9549	0.9069	0.9897	0.9660	0.9295
0.300	0.9804	0.9356	0.8680	0.9860	0.9537	0.9045	0.9895	0.9652	0.9278
0.500	0.9795	0.9328	0.8624	0.9854	0.9520	0.9009	0.9891	0.9640	0.9254
1.000	0.9785	0.9294	0.8556	0.9848	0.9498	0.8966	0.9887	0.9626	0.9225
2.000	0.9778	0.9272	0.8512	0.9843	0.9484	0.8938	0.9884	0.9617	0.9206
3.000	0.9775	0.9263	0.8496	0.9842	0.9479	0.8928	0.9883	0.9613	0.9199
5.000	0.9773	0.9257	0.8482	0.9841	0.9475	0.8920	0.9882	0.9611	0.9194

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 4.00 in.; thickness, 3.00 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8867	0.6574	0.3815	0.9406	0.8113	0.6331	0.9636	0.8821	0.7636
0.130	0.8866	0.6571	0.3811	0.9405	0.8112	0.6328	0.9636	0.8820	0.7635
0.137	0.8862	0.6560	0.3794	0.9403	0.8107	0.6319	0.9635	0.8818	0.7630
0.150	0.8855	0.6541	0.3764	0.9400	0.8098	0.6302	0.9633	0.8813	0.7620
0.200	0.8829	0.6468	0.3652	0.9389	0.8063	0.6241	0.9627	0.8795	0.7585
0.300	0.8782	0.6337	0.3452	0.9369	0.8001	0.6129	0.9617	0.8761	0.7522
0.500	0.8708	0.6134	0.3143	0.9336	0.7903	0.5954	0.9600	0.8709	0.7422
1.000	0.8605	0.5856	0.2734	0.9292	0.7770	0.5718	0.9578	0.8638	0.7287
2.000	0.8530	0.5658	0.2452	0.9261	0.7677	0.5554	0.9562	0.8590	0.7195
3.000	0.8501	0.5581	0.2346	0.9249	0.7641	0.5492	0.9556	0.8571	0.7161
5.000	0.8475	0.5514	0.2256	0.9238	0.7611	0.5439	0.9551	0.8556	0.7131

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9754	0.9197	0.8365	0.9823	0.9419	0.8806	0.9867	0.9560	0.9091
0.130	0.9754	0.9196	0.8364	0.9823	0.9418	0.8805	0.9867	0.9560	0.9091
0.137	0.9754	0.9195	0.8361	0.9823	0.9417	0.8803	0.9866	0.9559	0.9089
0.150	0.9753	0.9192	0.8355	0.9822	0.9416	0.8800	0.9866	0.9558	0.9087
0.200	0.9749	0.9181	0.8334	0.9820	0.9409	0.8786	0.9865	0.9553	0.9077
0.300	0.9743	0.9162	0.8295	0.9816	0.9396	0.8761	0.9862	0.9545	0.9061
0.500	0.9734	0.9131	0.8234	0.9810	0.9377	0.8721	0.9858	0.9532	0.9034
1.000	0.9721	0.9089	0.8153	0.9802	0.9350	0.8669	0.9853	0.9514	0.8998
2.000	0.9712	0.9061	0.8098	0.9797	0.9333	0.8634	0.9849	0.9503	0.8975
3.000	0.9709	0.9051	0.8077	0.9795	0.9327	0.8621	0.9848	0.9498	0.8966
5.000	0.9706	0.9042	0.8060	0.9793	0.9321	0.8610	0.9847	0.9495	0.8959

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 4.00 in.; thickness, 3.50 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8893	0.6648	0.3937	0.9418	0.8153	0.6404	0.9643	0.8844	0.7681
0.130	0.8892	0.6644	0.3931	0.9418	0.8151	0.6401	0.9643	0.8843	0.7679
0.137	0.8887	0.6631	0.3910	0.9416	0.8145	0.6389	0.9642	0.8840	0.7673
0.150	0.8879	0.6607	0.3873	0.9412	0.8134	0.6369	0.9640	0.8834	0.7661
0.200	0.8847	0.6520	0.3738	0.9398	0.8092	0.6293	0.9633	0.8811	0.7618
0.300	0.8793	0.6368	0.3502	0.9374	0.8018	0.6160	0.9620	0.8772	0.7541
0.500	0.8711	0.6143	0.3158	0.9338	0.7909	0.5964	0.9601	0.8712	0.7428
1.000	0.8605	0.5857	0.2734	0.9292	0.7771	0.5718	0.9578	0.8638	0.7287
2.000	0.8530	0.5658	0.2452	0.9261	0.7677	0.5554	0.9562	0.8590	0.7195
3.000	0.8501	0.5581	0.2346	0.9249	0.7641	0.5492	0.9556	0.8571	0.7161
5.000	0.8475	0.5514	0.2256	0.9238	0.7611	0.5439	0.9551	0.8556	0.7131

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9759	0.9211	0.8393	0.9826	0.9428	0.8825	0.9869	0.9567	0.9105
0.130	0.9759	0.9211	0.8392	0.9826	0.9428	0.8824	0.9869	0.9566	0.9104
0.137	0.9758	0.9209	0.8388	0.9826	0.9427	0.8822	0.9868	0.9566	0.9103
0.150	0.9757	0.9205	0.8381	0.9825	0.9424	0.8817	0.9868	0.9564	0.9099
0.200	0.9753	0.9192	0.8355	0.9822	0.9416	0.8800	0.9866	0.9558	0.9088
0.300	0.9745	0.9168	0.8308	0.9818	0.9401	0.8770	0.9863	0.9548	0.9067
0.500	0.9734	0.9133	0.8238	0.9811	0.9378	0.8724	0.9858	0.9533	0.9036
1.000	0.9721	0.9089	0.8153	0.9802	0.9350	0.8669	0.9853	0.9514	0.8998
2.000	0.9712	0.9061	0.8098	0.9797	0.9333	0.8634	0.9849	0.9503	0.8975
3.000	0.9709	0.9051	0.8077	0.9795	0.9327	0.8621	0.9848	0.9498	0.8966
5.000	0.9706	0.9042	0.8060	0.9793	0.9321	0.8610	0.9847	0.9495	0.8959

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 4.00 in.; thickness, 4.00 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8913	0.6705	0.4032	0.9429	0.8185	0.6463	0.9649	0.8863	0.7718
0.130	0.8911	0.6701	0.4025	0.9428	0.8183	0.6459	0.9649	0.8862	0.7715
0.137	0.8906	0.6685	0.4001	0.9426	0.8175	0.6446	0.9647	0.8858	0.7708
0.150	0.8896	0.6658	0.3957	0.9421	0.8162	0.6421	0.9645	0.8851	0.7694
0.200	0.8860	0.6558	0.3800	0.9405	0.8113	0.6333	0.9637	0.8824	0.7643
0.300	0.8799	0.6388	0.3535	0.9378	0.8030	0.6182	0.9622	0.8779	0.7555
0.500	0.8712	0.6148	0.3166	0.9339	0.7912	0.5969	0.9602	0.8714	0.7431
1.000	0.8605	0.5857	0.2734	0.9292	0.7771	0.5718	0.9578	0.8638	0.7287
2.000	0.8530	0.5658	0.2452	0.9261	0.7677	0.5554	0.9562	0.8590	0.7195
3.000	0.8501	0.5581	0.2346	0.9249	0.7641	0.5492	0.9556	0.8571	0.7161
5.000	0.8475	0.5514	0.2256	0.9238	0.7611	0.5439	0.9551	0.8556	0.7131

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9762	0.9223	0.8417	0.9829	0.9436	0.8841	0.9870	0.9572	0.9116
0.130	0.9762	0.9223	0.8416	0.9828	0.9436	0.8841	0.9870	0.9572	0.9116
0.137	0.9762	0.9220	0.8411	0.9828	0.9434	0.8837	0.9870	0.9571	0.9114
0.150	0.9760	0.9216	0.8403	0.9827	0.9432	0.8832	0.9869	0.9569	0.9110
0.200	0.9755	0.9200	0.8371	0.9824	0.9421	0.8811	0.9867	0.9562	0.9096
0.300	0.9747	0.9173	0.8317	0.9819	0.9404	0.8776	0.9864	0.9550	0.9071
0.500	0.9735	0.9134	0.8241	0.9811	0.9379	0.8726	0.9858	0.9533	0.9037
1.000	0.9721	0.9089	0.8153	0.9802	0.9350	0.8669	0.9853	0.9514	0.8998
2.000	0.9712	0.9061	0.8098	0.9797	0.9333	0.8634	0.9849	0.9503	0.8975
3.000	0.9709	0.9051	0.8077	0.9795	0.9327	0.8621	0.9848	0.9498	0.8966
5.000	0.9706	0.9042	0.8060	0.9793	0.9321	0.8610	0.9847	0.9495	0.8959

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 4.50 in.; thickness, 3.50 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8648	0.5994	0.2991	0.9277	0.7732	0.5666	0.9553	0.8564	0.7152
0.130	0.8646	0.5989	0.2985	0.9277	0.7730	0.5662	0.9553	0.8563	0.7150
0.137	0.8641	0.5975	0.2964	0.9274	0.7723	0.5649	0.9552	0.8559	0.7142
0.150	0.8631	0.5948	0.2925	0.9270	0.7709	0.5625	0.9549	0.8551	0.7128
0.200	0.8594	0.5849	0.2782	0.9253	0.7659	0.5539	0.9540	0.8524	0.7077
0.300	0.8529	0.5676	0.2536	0.9223	0.7572	0.5387	0.9525	0.8476	0.6986
0.500	0.8432	0.5422	0.2179	0.9179	0.7441	0.5162	0.9501	0.8403	0.6851
1.000	0.8308	0.5102	0.1749	0.9123	0.7278	0.4884	0.9472	0.8314	0.6685
2.000	0.8221	0.4885	0.1472	0.9086	0.7168	0.4701	0.9453	0.8255	0.6576
3.000	0.8187	0.4802	0.1371	0.9071	0.7126	0.4633	0.9446	0.8233	0.6536
5.000	0.8158	0.4731	0.1286	0.9059	0.7091	0.4575	0.9440	0.8214	0.6502

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9697	0.9014	0.8008	0.9781	0.9283	0.8535	0.9834	0.9455	0.8880
0.130	0.9697	0.9014	0.8006	0.9781	0.9282	0.8534	0.9834	0.9455	0.8879
0.137	0.9696	0.9011	0.8001	0.9780	0.9281	0.8531	0.9834	0.9454	0.8877
0.150	0.9695	0.9007	0.7993	0.9780	0.9278	0.8525	0.9833	0.9452	0.8873
0.200	0.9689	0.8990	0.7961	0.9776	0.9267	0.8504	0.9831	0.9445	0.8858
0.300	0.9680	0.8961	0.7904	0.9770	0.9249	0.8467	0.9827	0.9432	0.8833
0.500	0.9667	0.8918	0.7820	0.9762	0.9221	0.8411	0.9821	0.9413	0.8794
1.000	0.9650	0.8864	0.7716	0.9751	0.9186	0.8343	0.9814	0.9390	0.8748
2.000	0.9639	0.8830	0.7650	0.9744	0.9165	0.8300	0.9810	0.9375	0.8719
3.000	0.9635	0.8817	0.7625	0.9742	0.9157	0.8285	0.9808	0.9370	0.8708
5.000	0.9631	0.8806	0.7605	0.9740	0.9150	0.8272	0.9807	0.9366	0.8700

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 4.50 in.; thickness, 4.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8672	0.6061	0.3097	0.9290	0.7771	0.5735	0.9561	0.8587	0.7196
0.130	0.8670	0.6056	0.3089	0.9289	0.7768	0.5731	0.9560	0.8586	0.7193
0.137	0.8664	0.6038	0.3064	0.9286	0.7759	0.5715	0.9559	0.8581	0.7184
0.150	0.8652	0.6007	0.3018	0.9281	0.7743	0.5687	0.9556	0.8572	0.7168
0.200	0.8609	0.5893	0.2851	0.9261	0.7685	0.5585	0.9545	0.8540	0.7107
0.300	0.8537	0.5699	0.2572	0.9228	0.7585	0.5411	0.9527	0.8484	0.7002
0.500	0.8434	0.5427	0.2188	0.9180	0.7445	0.5168	0.9502	0.8405	0.6855
1.000	0.8308	0.5103	0.1749	0.9123	0.7278	0.4884	0.9472	0.8314	0.6685
2.000	0.8221	0.4885	0.1472	0.9086	0.7168	0.4701	0.9453	0.8255	0.6576
3.000	0.8187	0.4802	0.1371	0.9071	0.7126	0.4633	0.9446	0.8233	0.6536
5.000	0.8158	0.4731	0.1286	0.9059	0.7091	0.4575	0.9440	0.8214	0.6502

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9702	0.9029	0.8037	0.9784	0.9293	0.8555	0.9837	0.9462	0.8894
0.130	0.9701	0.9028	0.8035	0.9784	0.9292	0.8554	0.9837	0.9462	0.8893
0.137	0.9700	0.9025	0.8029	0.9783	0.9290	0.8550	0.9836	0.9461	0.8891
0.150	0.9699	0.9020	0.8019	0.9782	0.9287	0.8543	0.9835	0.9458	0.8886
0.200	0.9693	0.9000	0.7981	0.9778	0.9274	0.8518	0.9833	0.9450	0.8868
0.300	0.9682	0.8967	0.7915	0.9772	0.9252	0.8474	0.9828	0.9435	0.8838
0.500	0.9667	0.8919	0.7822	0.9762	0.9222	0.8413	0.9822	0.9414	0.8796
1.000	0.9650	0.8864	0.7716	0.9751	0.9186	0.8343	0.9814	0.9390	0.8748
2.000	0.9639	0.8830	0.7650	0.9744	0.9165	0.8300	0.9810	0.9375	0.8719
3.000	0.9635	0.8817	0.7625	0.9742	0.9157	0.8285	0.9808	0.9370	0.8708
5.000	0.9631	0.8806	0.7605	0.9740	0.9150	0.8272	0.9807	0.9366	0.8700

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 4.50 in.; thickness, 4.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8691	0.6113	0.3180	0.9300	0.7801	0.5791	0.9567	0.8606	0.7232
0.130	0.8689	0.6107	0.3172	0.9299	0.7798	0.5786	0.9566	0.8605	0.7229
0.137	0.8681	0.6088	0.3143	0.9296	0.7788	0.5768	0.9564	0.8599	0.7219
0.150	0.8668	0.6052	0.3090	0.9290	0.7770	0.5736	0.9561	0.8589	0.7199
0.200	0.8621	0.5925	0.2902	0.9268	0.7704	0.5620	0.9549	0.8552	0.7130
0.300	0.8542	0.5714	0.2595	0.9231	0.7595	0.5428	0.9529	0.8490	0.7013
0.500	0.8435	0.5430	0.2192	0.9181	0.7446	0.5171	0.9503	0.8407	0.6857
1.000	0.8308	0.5103	0.1749	0.9123	0.7278	0.4884	0.9472	0.8314	0.6685
2.000	0.8221	0.4885	0.1472	0.9086	0.7168	0.4701	0.9453	0.8255	0.6576
3.000	0.8187	0.4802	0.1371	0.9071	0.7126	0.4633	0.9446	0.8233	0.6536
5.000	0.8158	0.4731	0.1286	0.9059	0.7091	0.4575	0.9440	0.8214	0.6502

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9706	0.9042	0.8061	0.9787	0.9301	0.8572	0.9838	0.9468	0.8906
0.130	0.9705	0.9041	0.8059	0.9787	0.9301	0.8571	0.9838	0.9468	0.8905
0.137	0.9704	0.9037	0.8053	0.9786	0.9299	0.8566	0.9838	0.9467	0.8902
0.150	0.9702	0.9031	0.8040	0.9785	0.9294	0.8558	0.9837	0.9464	0.8897
0.200	0.9695	0.9008	0.7996	0.9780	0.9280	0.8529	0.9834	0.9454	0.8876
0.300	0.9683	0.8971	0.7923	0.9772	0.9255	0.8480	0.9829	0.9437	0.8842
0.500	0.9667	0.8920	0.7824	0.9762	0.9222	0.8414	0.9822	0.9414	0.8797
1.000	0.9650	0.8864	0.7716	0.9751	0.9186	0.8343	0.9814	0.9390	0.8748
2.000	0.9639	0.8830	0.7650	0.9744	0.9165	0.8300	0.9810	0.9375	0.8719
3.000	0.9635	0.8817	0.7625	0.9742	0.9157	0.8285	0.9808	0.9370	0.8708
5.000	0.9631	0.8806	0.7605	0.9740	0.9150	0.8272	0.9807	0.9366	0.8700

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 5.00 in.; thickness, 4.00 in.

τ	h = 5.0 cm			h = 10.0 cm			h = 15.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8421	0.5422	0.2249	0.9141	0.7336	0.5004	0.9464	0.8291	0.6650
0.130	0.8419	0.5416	0.2242	0.9140	0.7333	0.4999	0.9464	0.8289	0.6647
0.137	0.8412	0.5397	0.2216	0.9136	0.7323	0.4982	0.9462	0.8283	0.6636
0.150	0.8398	0.5362	0.2169	0.9130	0.7305	0.4951	0.9458	0.8273	0.6617
0.200	0.8349	0.5236	0.2000	0.9107	0.7237	0.4838	0.9446	0.8234	0.6546
0.300	0.8265	0.5023	0.1718	0.9067	0.7122	0.4645	0.9424	0.8168	0.6426
0.500	0.8147	0.4725	0.1336	0.9010	0.6959	0.4376	0.9394	0.8075	0.6256
1.000	0.8003	0.4376	0.0911	0.8943	0.6768	0.4067	0.9358	0.7967	0.6061
2.000	0.7906	0.4146	0.0654	0.8899	0.6643	0.3870	0.9335	0.7898	0.5938
3.000	0.7869	0.4060	0.0561	0.8882	0.6596	0.3797	0.9327	0.7872	0.5893
5.000	0.7837	0.3987	0.0486	0.8868	0.6556	0.3736	0.9319	0.7851	0.5855

τ	h = 20.0 cm			h = 25.0 cm			h = 30.0 cm		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9635	0.8818	0.7630	0.9735	0.9136	0.8244	0.9799	0.9341	0.8651
0.130	0.9634	0.8817	0.7628	0.9735	0.9135	0.8243	0.9799	0.9341	0.8650
0.137	0.9633	0.8813	0.7621	0.9734	0.9133	0.8238	0.9799	0.9339	0.8647
0.150	0.9631	0.8807	0.7609	0.9733	0.9128	0.8230	0.9798	0.9336	0.8641
0.200	0.9624	0.8783	0.7563	0.9728	0.9113	0.8200	0.9794	0.9326	0.8620
0.300	0.9611	0.8743	0.7486	0.9720	0.9087	0.8148	0.9789	0.9308	0.8584
0.500	0.9593	0.8686	0.7377	0.9708	0.9049	0.8075	0.9781	0.9282	0.8533
1.000	0.9572	0.8620	0.7252	0.9695	0.9007	0.7992	0.9772	0.9253	0.8475
2.000	0.9558	0.8579	0.7175	0.9687	0.8981	0.7941	0.9766	0.9236	0.8441
3.000	0.9554	0.8564	0.7146	0.9684	0.8971	0.7923	0.9765	0.9229	0.8428
5.000	0.9550	0.8551	0.7122	0.9681	0.8963	0.7907	0.9763	0.9224	0.8418

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Continued

Diameter, 5.00 in.; thickness, 4.50 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8443	0.5482	0.2339	0.9153	0.7373	0.5068	0.9472	0.8314	0.6693
0.130	0.8441	0.5475	0.2330	0.9152	0.7369	0.5062	0.9471	0.8312	0.6689
0.137	0.8432	0.5454	0.2300	0.9148	0.7357	0.5042	0.9469	0.8305	0.6677
0.150	0.8417	0.5414	0.2246	0.9141	0.7336	0.5006	0.9465	0.8293	0.6654
0.200	0.8362	0.5273	0.2054	0.9114	0.7260	0.4877	0.9450	0.8249	0.6573
0.300	0.8271	0.5040	0.1743	0.9071	0.7132	0.4664	0.9426	0.8175	0.6439
0.500	0.8148	0.4728	0.1340	0.9011	0.6961	0.4380	0.9394	0.8077	0.6259
1.000	0.8003	0.4376	0.0911	0.8943	0.6768	0.4067	0.9358	0.7967	0.6061
2.000	0.7906	0.4146	0.0654	0.8899	0.6643	0.3870	0.9335	0.7898	0.5938
3.000	0.7869	0.4060	0.0561	0.8882	0.6596	0.3797	0.9327	0.7872	0.5893
5.000	0.7837	0.3987	0.0486	0.8868	0.6556	0.3736	0.9319	0.7851	0.5855

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9639	0.8833	0.7659	0.9738	0.9146	0.8265	0.9801	0.9349	0.8666
0.130	0.9639	0.8832	0.7657	0.9738	0.9145	0.8263	0.9801	0.9348	0.8665
0.137	0.9638	0.8827	0.7649	0.9737	0.9142	0.8258	0.9801	0.9346	0.8661
0.150	0.9635	0.8820	0.7634	0.9736	0.9138	0.8248	0.9800	0.9343	0.8654
0.200	0.9627	0.8793	0.7582	0.9730	0.9120	0.8213	0.9796	0.9331	0.8630
0.300	0.9612	0.8747	0.7495	0.9721	0.9090	0.8155	0.9790	0.9310	0.8589
0.500	0.9593	0.8686	0.7379	0.9708	0.9050	0.8076	0.9781	0.9283	0.8534
1.000	0.9572	0.8620	0.7252	0.9695	0.9007	0.7992	0.9772	0.9253	0.8475
2.000	0.9558	0.8579	0.7175	0.9687	0.8981	0.7941	0.9766	0.9236	0.8441
3.000	0.9554	0.8564	0.7146	0.9684	0.8971	0.7923	0.9765	0.9229	0.8428
5.000	0.9550	0.8551	0.7122	0.9681	0.8963	0.7907	0.9763	0.9224	0.8418

TABLE I.- SOLID ANGLE CORRECTIONS FOR ANGULAR CORRELATION MEASUREMENTS

USING CYLINDRICAL SODIUM IODIDE CRYSTALS - Concluded

Diameter, 5.00 in.; thickness, 5.00 in.

τ	$h = 5.0 \text{ cm}$			$h = 10.0 \text{ cm}$			$h = 15.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.8460	0.5529	0.2410	0.9163	0.7402	0.5119	0.9478	0.8332	0.6728
0.130	0.8458	0.5522	0.2400	0.9162	0.7398	0.5113	0.9477	0.8330	0.6724
0.137	0.8449	0.5498	0.2367	0.9157	0.7385	0.5090	0.9474	0.8323	0.6710
0.150	0.8432	0.5454	0.2306	0.9149	0.7361	0.5050	0.9470	0.8309	0.6684
0.200	0.8372	0.5299	0.2094	0.9120	0.7277	0.4907	0.9454	0.8260	0.6594
0.300	0.8275	0.5051	0.1759	0.9073	0.7140	0.4676	0.9428	0.8180	0.6448
0.500	0.8148	0.4730	0.1342	0.9012	0.6962	0.4382	0.9394	0.8077	0.6260
1.000	0.8003	0.4376	0.0911	0.8943	0.6768	0.4067	0.9358	0.7967	0.6061
2.000	0.7906	0.4146	0.0654	0.8899	0.6643	0.3870	0.9335	0.7898	0.5938
3.000	0.7869	0.4060	0.0561	0.8882	0.6596	0.3797	0.9327	0.7872	0.5893
5.000	0.7837	0.3987	0.0486	0.8868	0.6556	0.3736	0.9319	0.7851	0.5855

τ	$h = 20.0 \text{ cm}$			$h = 25.0 \text{ cm}$			$h = 30.0 \text{ cm}$		
	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0	J_2/J_0	J_4/J_0	J_6/J_0
0.128	0.9643	0.8845	0.7683	0.9741	0.9155	0.8282	0.9803	0.9355	0.8678
0.130	0.9643	0.8844	0.7680	0.9741	0.9154	0.8280	0.9803	0.9354	0.8677
0.137	0.9641	0.8839	0.7671	0.9740	0.9151	0.8274	0.9803	0.9352	0.8673
0.150	0.9639	0.8831	0.7655	0.9738	0.9145	0.8263	0.9801	0.9348	0.8665
0.200	0.9629	0.8800	0.7596	0.9732	0.9125	0.8223	0.9797	0.9334	0.8637
0.300	0.9613	0.8751	0.7501	0.9722	0.9092	0.8159	0.9790	0.9312	0.8592
0.500	0.9593	0.8687	0.7380	0.9708	0.9050	0.8077	0.9781	0.9283	0.8534
1.000	0.9572	0.8620	0.7252	0.9695	0.9007	0.7992	0.9772	0.9253	0.8475
2.000	0.9558	0.8579	0.7175	0.9687	0.8981	0.7941	0.9766	0.9236	0.8441
3.000	0.9554	0.8564	0.7146	0.9684	0.8971	0.7923	0.9765	0.9229	0.8428
5.000	0.9550	0.8551	0.7122	0.9681	0.8963	0.7907	0.9763	0.9224	0.8418

"The aeronautical and space activities of the United States shall be conducted so as to contribute . . . to the expansion of human knowledge of phenomena in the atmosphere and space. The Administration shall provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof."

—NATIONAL AERONAUTICS AND SPACE ACT OF 1958

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